

7 ALTERNATIVE ROUTES

7.1 Alternative Requirement

Minnesota Statutes Section 216E.04, subdivision 3 and Minnesota Rule 7850.3100 require an applicant to identify any alternative routes that were considered and rejected for the Project. Applicants did evaluate an alternative route and an alternative route segment (**Figure 7-1**) for the new transmission line. These alternatives are described below, along with the reasons they were rejected.

7.2 Rejected Route Alternatives

7.2.1 East Alternative

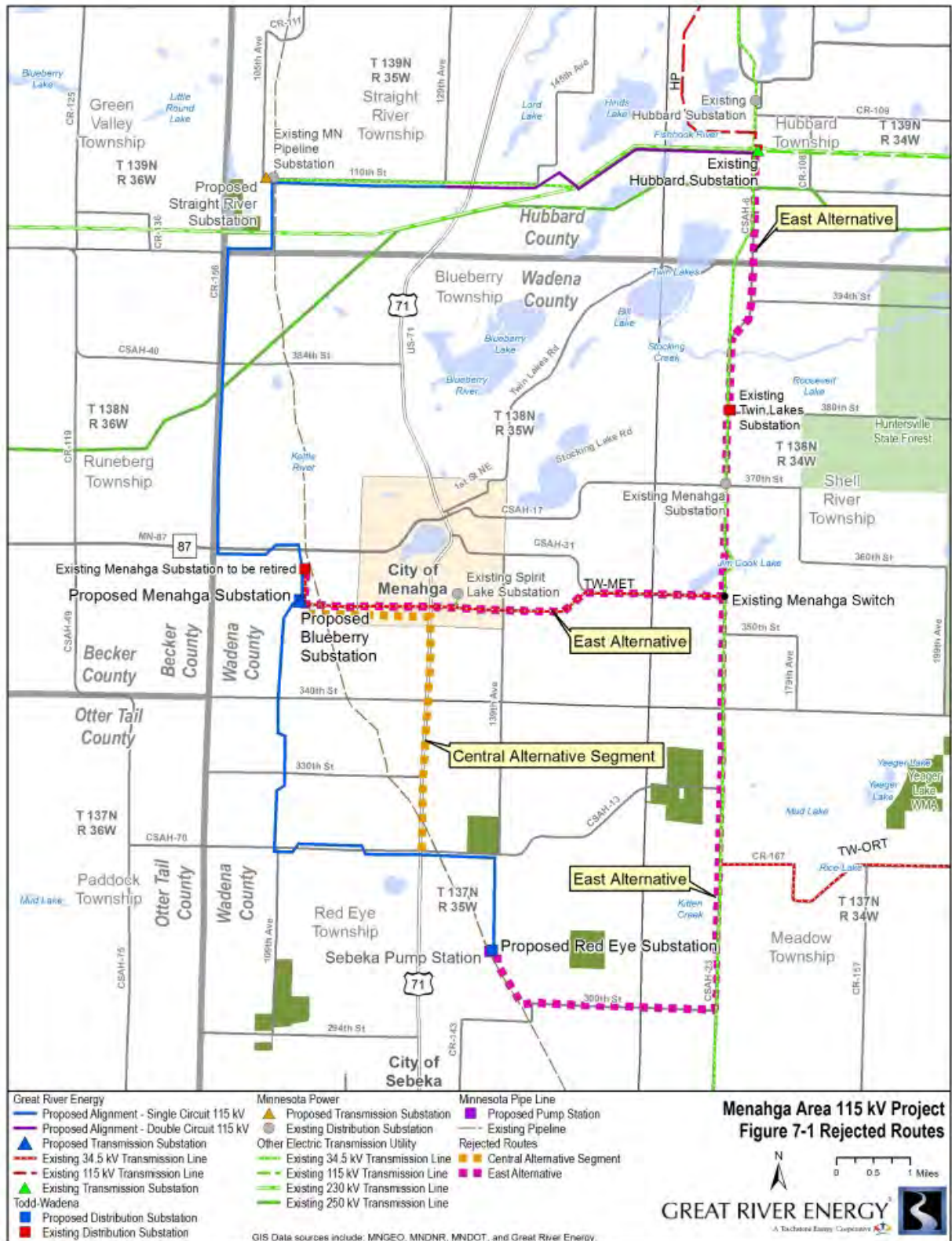
Applicants evaluated a completely different alternative that followed a more easterly route between the existing Great River Energy Hubbard Substation and the proposed Todd-Wadena Red Eye Substation (approximately 16 miles). This alternative exits the Hubbard Substation south along Hubbard CSAH 6, continues south along Wadena CSAH 23, then turns west along 310th Street to the Red Eye Substation. This alternative would also have to include construction of the Blueberry Substation and approximately 6.3 miles of 115 kV transmission line from the Menahga Switch to the Blueberry Substation (with the Great River Energy TW-MET underbuilt) to address loading issues on the 34.5 kV system at Menahga.

Great River Energy plans to create two 115 kV line outlets from the existing Hubbard Substation (one for this Project and one for a future project to the north). Because the Hubbard Substation is space-constrained, Great River Energy needs to remove one of the two 115/34.5 kV transformers to create a new 115 kV line position for this Project. This 115/34.5 kV transformer serves the Minnesota Power Pipeline Substation, which in turn serves MPL's pump station there. Because this 115/34.5 kV transformer would still need to be relocated to the Blueberry Substation under this alternative and therefore would no longer serve the Minnesota Power Pipeline Substation, this alternative would also have to include approximately 7.5 miles of new 34.5 kV sub-transmission line to serve the Minnesota Power Pipeline Substation. The total mileage of new line for this alternative is therefore 29.8 miles.

This route was rejected because, in comparison to the proposed route, it would:

- 1) not meet future system needs in the area (future project to the north);
- 2) not provide redundant electric service (would not have the Blueberry Substation as a backup) to the Todd-Wadena Menahga Substation, the largest load on the Hubbard-Verndale 34.5 kV system;

Figure 7-1. Rejected Routes



- 3) involve a long distance of either 115 kV with 34.5 kV underbuild or a transmission line on each side of CSAH 6 and CSAH 23, and a contingency between Hubbard and Twin Lakes would have the same effect (assuming either common structures or corridor) on the system today as it would if this alternative were built (essentially there is no additional system capacity with this alternative);
- 4) be considerably longer (approximately 7.3 miles) than the proposed Project, which would result in more impacts to human settlement and environmental resources;
- 5) involve a difficult routing area near Jim Cook Lake;
- 6) have more construction impacts if we had to underbuild and keep the 34.5 kV line in service (may need to offset the line closer to residences); and
- 7) be a radial line and therefore a less reliable solution if the 115 kV line were built between the Menahga Switch Station and the Blueberry Substation (with the Great River Energy TW-MET line underbuilt).

7.2.2 Central Alternative Segment

Applicants did not consider routing the transmission line along Highway 71 from the City of Menahga north because the highway goes right through the City of Menahga and is adjacent to a golf course.

Applicants did evaluate an alternative segment to the proposed Project that would exit the Blueberry Substation to the east and follow Great River Energy's TW-MET 34.5 kV line for 2.25 miles, then turn south along Highway 71 for 3.25 miles to County Road 13. Although tree removal and agricultural impacts would be similar, it was determined that the Project as proposed is preferable due to the greater development along Highway 71, some of which created difficulties with residences/businesses directly across from one another and close to the road. With the proposed route, there are more opportunities to avoid homes by crossing the road and they were therefore more easily avoided.

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